In the Claims:

Please amend the claims as follows.

1. (currently amended) A method for equalizing heat distribution across a catalyst in a tube reactor comprising loading a tube having an axial center with a catalytic monolith to thereby provide said tube reactor; wherein said catalytic monolith is a ceramic monolith support impregnated with a catalytically reactive metal; wherein said catalytically reactive metal is selected from the group consisting of nickel, cobalt, and molybdenum; and wherein said catalytic monolith defines a flow path oriented so as to direct heat inwardly towards ~~a~~ said axial center of said tube.

Claims 2-4 (canceled).

5. (currently amended) A method for equalizing heat distribution across a catalyst in a tube reactor comprising loading a tube having an axial center with a catalytic monolith to thereby provide said tube reactor; wherein said catalytic monolith is a ceramic monolith support impregnated with a catalytically reactive metal; wherein said catalytically reactive metal is silver and wherein said catalytic monolith defines a flow path oriented so as to direct heat outwardly away from said axial ~~a~~ center of said tube.

6. (previously presented) A process for the production of styrene by the dehydrogenation of ethylbenzene, said process comprises:

providing a tube;

providing a tube reactor by loading into said tube a catalytic monolith having a center and channels molded therein for directing a feed therethrough so as to direct the flow of heat toward said center of said catalytic monolith;

introducing said feed into said tube reactor operated under dehydrogenation conditions; and

yielding a dehydrogenation product.

7. (previously presented) A process as recited in claim 6, wherein said catalytic monolith comprises iron oxide useful in the catalytic dehydrogenation of ethylbenzene to styrene.

8. (previously presented) A process as recited in claim 7, wherein said catalytic monolith has a length and a shape that approximates the shape of said tube.

9. (previously presented) A process as recited in claim 8, wherein said tube has an inner diameter and said catalytic monolith further has a diameter just smaller than said inner diameter of said tube.

10. (currently amended) A method, comprising:

providing a tube having a tube shape and ~~a~~ an axial tube center; and

providing a tube reactor by loading into said tube a catalytic monolith having a shape which approximates said tube shape and having channels molded therein for directing fluid flow therethrough such that heat is directed toward said axial tube center to thereby equalize the temperature profile across said tube when operating said tube reactor as an endothermic reactor system.

11. (previously presented) A method as recited in claim 10, wherein said channels of said catalytic monolith are impregnated with a catalytically reactive metal so as to make said channels effective as a catalyst.

12. (previously presented) A method as recited in claim 11, wherein said catalytically reactive metal is selected from the group consisting of nickel, cobalt, molybdenum and silver.

13. (previously presented) A method as recited in claim 12, wherein said catalytically reactive metal is silver.

14. (previously presented) A method as recited in claim 10, wherein said catalytically reactive metal is nickel.

15. (previously presented) A method as recited in claim 10, wherein said catalytically reactive metal is cobalt.

16. (previously presented) A method as recited in claim 10, wherein said catalytically reactive metal is molybdenum.

17. (currently amended) A method, comprising:

providing a tube having a tube shape, ~~a~~ an axial tube center, and a tube inner diameter; and

providing a tube reactor by loading into said tube a catalytic monolith having a shape which approximates said tube shape and having channels molded therein for directing fluid flow therethrough such that heat is directed toward said tube inner diameter from said axial tube center to thereby equalize the temperature profile across said tube when operating said tube reactor as an exothermic reactor system.

18. (previously presented) A method as recited in claim 17, wherein said channels of said catalytic monolith are impregnated with a catalytically reactive metal so as to make said channels effective as a catalyst.

19. (previously presented) A method as recited in claim 18, wherein said catalytically reactive metal is selected from the group consisting of nickel, cobalt, molybdenum and silver.

20. (previously presented) A method as recited in claim 19, wherein said catalytically reactive metal is silver.

21. (previously presented) A method as recited in claim 17, wherein said catalytically reactive metal is nickel.

22. (previously presented) A method as recited in claim 17, wherein said catalytically reactive metal is cobalt.

23. (previously presented) A method as recited in claim 17, wherein said catalytically reactive metal is molybdenum.